

IN THE CLAIMS:

Please amend claims 7, 9, and 11 as follows:

1. (Original) A signal processing method utilizing a partial response to record information on a medium and then regenerate the information from the medium, wherein

a regeneration signal from the medium is subjected to an equalizing process including the convolution of

$(k \cdot s \cdot D)$

where D: one (1) bit delay operator, and

k, s: positive integer, $k \neq s$.

2. (Original) The signal processing method according to claim 1, wherein the information is decoded from the equalized signal by use of maximum-likelihood detection.

3. (Original) A signal processing circuit utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein

the regenerating system includes an equalizer subjecting a regeneration signal from the medium to the convolution of

$$(k-s \cdot D)$$

where D: one (1) bit delay operator, and

k, s: positive integer, $k \neq s$.

4. (Original) The signal processing circuit according to claim 3, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.

5. (Original) A signal recording/regenerating apparatus utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein

the regenerating system includes an equalizer subjecting a regeneration signal from the medium to the convolution of

$$(k-s \cdot D)$$

where D: one (1) bit delay operator, and

k, s: positive integer, $k \neq s$.

6. (Original) The signal recording/regenerating apparatus according to claim 5, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.

7. (Currently Amended) A signal processing method utilizing a partial response to record information on a medium and then regenerate the information from the medium, wherein

in a main path of a modulation circuit, a record signal recorded on the medium is subjected to the convolution of

$$(1-D)$$

where D: one (1) bit delay operator, and wherein

in a main path of the modulation circuit, a regeneration signal from the medium is subjected to an equalizing process including the convolution of

$$(k-s \cdot D)^{-1} (1+D)^n$$

where D: one (1) bit delay operator,

k, s: ~~positive integer,~~ and

n: positive integer, ~~except 2~~ and

except k=1, s=1 and n=2.

8. (Original) The signal processing method according to claim 7, wherein the information is decoded from the equalized signal by use of maximum-likelihood detection.

9. (Currently Amended) A signal processing circuit utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein

in a main path of a modulation circuit, the recording system includes a circuit unit subjecting a record signal recorded on the medium to the convolution of

$$(1-D)$$

where D: one (1) bit delay operator, and wherein

in the main path of the modulation circuit, the regenerating system includes an equalizer subjecting an output signal from the medium to the convolution of

$$(k-s \cdot D) \cdot (1+D)^n$$

where D: one (1) bit delay operator,

k, s: positive-integer, and

n: positive integer, ~~except 2~~and

except k=1, s=1 and n=2.

10. (Original) The signal processing circuit according to claim 9, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.

11. (Currently Amended) A signal recording/regenerating apparatus utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein in a main path of a modulation circuit, the recording system includes a circuit unit subjecting a record signal recorded on the medium to convolution of

$(1-D)$

where D: one (1) bit delay operator, and wherein

in the main path of the modulation circuit, the regenerating system includes an equalizer subjecting a regeneration signal from the medium to the convolution of

$(k-s \cdot D) \cdot (1+D)^n$;

where D: one (1) bit delay operator,

k, s: positive-integer, and

n: positive integer, except 2 and

except k=1, s=1 and n=2.

12. (Original) The signal recording/regenerating apparatus according to claim 11, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.